



Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 19F01598

Received: Oct 08, 2019

Reported: Nov 07, 2019

Purchase Order No.

None Received

Customer ID: 04206Z

Account ID: Z00372

Kevin Lawrence
Desert View Power, Inc.
62-300 Gene Welmas Drive
Mecca, CA 92254-0758

ANALYTICAL REPORT

*Report may only be copied in its entirety.
Results reported herein relate only to discrete samples
submitted by the client. Hazen Research, Inc. does not warrant
that the results are representative of anything other than the
samples that were received in the laboratory*

By: _____

Mark A. Pugh
Fuel Laboratory Manager



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ANALYTICAL REPORT

Kevin Lawrence
Desert View Power, Inc.

Customer Sample ID	Boiler Fuel Feed 9/30/19
Lab Sample ID	19F01598-001

pH of a 25% Mixture	5.92
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Customer Sample ID		Boiler Fuel Feed 9/30/19
Lab Sample ID		19F01598-001
Sodium in Ash as Na ₂ O	%	3.47
Potassium in Ash as K ₂ O	%	5.34
Chlorine in Ash	%	0.98
Carbon Dioxide in Ash	%	0.46

By:

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The sample was ashed at 600 degrees celsius prior to analysis.



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ANALYTICAL REPORT

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Client Sample ID Boiler Fuel Feed 9/30/19

Lab Sample ID 19F01598-001

Reporting
Basis >

As Rec'd

Dry

Air Dry

Proximate (%)

Moisture	17.35	0.00	2.03
Ash	8.23	9.96	9.76
Volatile	59.17	71.59	70.14
Fixed C	15.25	18.45	18.07
Total	100.00	100.00	100.00

Sulfur	0.214	0.259	0.254
Btu/lb (HHV)	6188	7487	7335
Btu/lb (LHV)	5567	6952	
MMF Btu/lb	6788	8389	
MAF Btu/lb		8315	

Ultimate (%)

Moisture	17.35	0.00	2.03
Carbon	38.14	46.15	45.21
Hydrogen	4.77	5.77	5.65
Nitrogen	0.51	0.62	0.61
Sulfur	0.214	0.259	0.254
Ash	8.23	9.96	9.76
Oxygen*	30.79	37.24	36.49
Total	100.00	100.00	100.00

Chlorine**	0.140	0.169	0.166
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Air Dry Loss (%) 15.64

Forms of Sulfur, as S, (%)

Sulfate
Pyritic
Organic

Total 0.214 0.259

Water Soluble Alkalies (%)

Na ₂ O	0.139	0.168
K ₂ O	0.224	0.270

* Oxygen by difference

** Not usually reported as part of the ultimate analysis.

Lb. Alkali Oxide/MM Btu = 1.17
Lb. Ash/MM Btu= 13.31
Lb. SO₂/MM Btu= 0.693
Lb. Cl/MM Btu= 0.23
F-Factor(dry), DSCF/MM Btu= 9,979

Report Prepared By:

Mark A. Pugh
Fuel Laboratory Manager

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SAMPLE SUBMITTAL FORM

Sample Identification **BOILER FUEL FEED** Date 9-30-19

- ☒ Ultimate, Proximate, & BTU
- ☐ Ultimate
- ☐ Proximate
- ☐ Moisture
- ☐ Ash
- ☐ Sulfur
- ☐ Calorific Value. BTU / lb
- ☒ Chlorine
- ☐ Elemental Analysis of ash (Si, A1, Ti, Fe, Ca, Mg, Na, K, P, S as oxides)
- ☒ Chlorine in ash
- ☒ Carbon Dioxide in ash
- ☐ Fusion temperatures of ash (oxidizing & reducing)
- ☒ Water soluble alkalis (Na2O & K2O)
- ☐ Water soluble calcium (CaO)
- ☒ Alkali, Lbs / MMBTU (Need Na2O & K2O in ash If Elemental is not run)
- ☐ Sodium in ash (Na2O)
- ☐ Potassium in ash (K2O)

Submit samples to:
Hazen research, Inc.
Attn: Gerard H Cunningham
4601 Indiana St.
Golden, Colorado 80403

Reports & Billing to:
Colmac Energy, Inc.
Paula Bates
Po Box 758
Mecca, Ca. 92254- 0758